

Achievement Standard

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| Subject Reference | Generic Technology 3.3 | | |
| Title | Develop a conceptual design considering fitness for purpose in the broadest sense | | |
| Level | 3 | Credits | 6 |
| | | Assessment | Internal |
| Subfield | Technology | | |
| Domain | Generic Technology | | |
| Status | Registered | Status date | 4 December 2012 |
| Planned review date | 31 December 2019 | Date version published | 17 November 2016 |

This achievement standard involves developing a conceptual design considering fitness for purpose in the broadest sense.

Achievement Criteria

| Achievement | Achievement with Merit | Achievement with Excellence |
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| <ul style="list-style-type: none"> Develop a conceptual design considering fitness for purpose in the broadest sense. | <ul style="list-style-type: none"> Develop a refined conceptual design considering fitness for purpose in the broadest sense. | <ul style="list-style-type: none"> Develop a justified conceptual design considering fitness for purpose in the broadest sense. |

Explanatory Notes

- This achievement standard is derived from Level 8 of the Technology learning area in *The New Zealand Curriculum*, Learning Media, Ministry of Education, 2007; and is related to the material in the *Teaching and Learning Guide for Technology*, Ministry of Education at <http://seniorsecondary.tki.org.nz>.

Further information can be found at <http://www.technology.tki.org.nz/>.

Appropriate reference information is available in *Safety and Technology Education: A Guidance Manual for New Zealand Schools*, Ministry of Education at <http://technology.tki.org.nz/Curriculum-support/Safety-and-Technology-Education>, and the Health and Safety at Work Act 2015.

This standard is also derived from *Te Marautanga o Aotearoa*. For details of *Te Marautanga o Aotearoa* achievement objectives to which this standard relates, see the [Papa Whakaako](#) for the relevant learning area.

- 2 *Develop a conceptual design considering fitness for purpose in the broadest sense* involves:
- establishing conceptual designs through generating and evaluating design ideas informed by research, including the analysis of existing outcomes and the context considerations
 - using evidence from research and functional modelling, including feedback from stakeholders, to evaluate conceptual designs
 - communicating a final conceptual design for an outcome
 - explaining the potential of the proposed outcome to meet the brief.

Develop a refined conceptual design considering fitness for purpose in the broadest sense involves:

- ongoing exploration and evaluation of design ideas to determine their suitability for inclusion in conceptual designs
- using evidence from ongoing research and functional modelling, including feedback from stakeholders, to evaluate the potential of the proposed outcome to meet the brief.

Develop a justified conceptual design considering fitness for purpose in the broadest sense involves:

- synthesising evidence from ongoing research and functional modelling, including feedback from stakeholders, to substantiate the potential of the proposed outcome to meet the brief.

- 3 Context refers to the wider social and physical environment in which technological development occurs.
- 4 A *conceptual design* clearly communicates a proposed technological outcome that has the potential to address the brief. It is a detailed description of how the outcome would look and function. Conceptual designs can be presented using a variety of techniques which may include but are not limited to: freehand sketches, diagrams, technical drawings, scale models, computer simulations, written descriptions, details of materials, components and/or assembly instructions.
- 5 The brief used for this standard must allow judgement of an outcome's fitness for purpose in the broadest sense. *Fitness for purpose in the broadest sense* relates to the outcome described by the conceptual design, as well as the practices used to develop the conceptual design. Judgements about fitness for purpose may include:
- considerations of the outcome's technical and social acceptability
 - sustainability of resources used
 - ethical nature of testing practices
 - cultural appropriateness of trialling procedures
 - determination of life cycle, maintenance, ultimate disposal
 - health and safety.
- The brief may be provided by the teacher or developed by the student.
- 6 Functional modelling is used to explore and evaluate developing design ideas and conceptual designs. It is undertaken to gather evidence on all aspects of the outcome including its likely technical feasibility and social acceptability.

- 7 Conditions of Assessment related to this achievement standard can be found at <http://ncea.tki.org.nz/Resources-for-aligned-standards/Technology/Level-3-Technology>.
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Replacement Information

This achievement standard, AS91608, and AS91609 replaced AS90613.

This achievement standard, AS91608, AS91609, and AS91611 replaced AS90620 and unit standard 13391.

Quality Assurance

- 1 Providers and Industry Training Organisations must have been granted consent to assess by NZQA before they can register credits from assessment against achievement standards.
- 2 Organisations with consent to assess and Industry Training Organisations assessing against achievement standards must engage with the moderation system that applies to those achievement standards.

Consent and Moderation Requirements (CMR) reference

0233